NEWS RELEASE

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Contact: John Wranovics
(925) 640-6402

Curtiss-Wright Debuts 3U OpenVPX™ PCIe 3.1-10 GbE Hybrid Switch Module

New VPX3-663 hybrid switch module eases and accelerates the integration of scalable 3U OpenVPX solutions for compute-intensive applications

AUSA 2019, Walter E. Washington Convention Center, Washington D.C. (Booth 2209) – October 14, 2019 – Curtiss-Wright's Defense Solutions division, a proven leading supplier of rugged deployable network switch solutions, today introduced the **VPX3-663 PCIe 3.1 and 10G Ethernet Hybrid Switch** module. The new card combines a PCI Express® (PCIe) Gen 3.1 switch and 10Gbps backplane Ethernet switch in a single 3U OpenVPX module. It enables system designers to more easily and effectively architect scalable compute-intensive solutions that combine Curtiss-Wright's high-performance single board computers (SBCs), digital signal processing (DSP) modules, graphics processors (GPUs), FPGA modules, and I/O cards. While traditional 3U-based mission computer systems, which typically consist of two, three, or four modules (processor, graphics, and I/O), can be readily daisy-chained or pipelined using PCIe, more demanding multi-processor applications, that require a mix of four to seven modules (including a switch and six payload cards), need a 3U "any-to-any" fabric that enables any module in the system to connect to any other module.

The VPX3-663 enables flexible network topologies and high-speed inter-module links using the interfaces already available on most 3U VPX COTS modules. With 24 lanes of PCIe Gen 3, configurable as up to 12 ports, the module enables system designers to accelerate the integration of scalable 3U OpenVPX heterogeneous systems. To provide a high-performance control plane between processing elements, the VPX3-663 includes a discrete 10 Gigabit Ethernet switch, with six or eight 10GBASE-KR links to the backplane. The module's Ethernet switch supports a wide range of multilayer networking features for managing traffic and enforcing security policies.

The VPX3-663, one of the industry's first 3U OpenVPX modules developed in alignment with

the SOSA™ Technical Standard, can serve as a Control/Expansion plane switch in SOSA systems that use PCIe to connect to FPGA, GPU, or I/O modules. It lets system designers unlock the full performance of their 3U VPX systems while leveraging the full range of 3U modules available on the market.

"Today, system integrators building leading-edge embedded computing systems are increasingly turning to the 3U VPX form factor to lower SWaP and leverage modular open standards architectures," said Lynn Bamford, Senior Vice President and General Manager, Defense and Power. "The new VPX3-663, our first PCIe/Ethernet hybrid switch, enables system designers to combine 3U modules in scalable systems with more flexibility than ever before."

The VPX3-663 PCIe switch also provides a powerful non-transparent bridging capability for systems with multiple processor modules. This enables hosts to share a resource, and supports direct communication between multiple hosts. The VPX3-663 matches the OpenVPX 6F6U switch module profile and is compatible with common off-the-shelf development backplanes. It is also validated for interoperability with a wide range of Curtiss-Wright modules, enabling rapid system development.

VPX3-663 Performance Features
- PCIe 3.1 data plane or expansion switch with 24 lanes to the VPX backplane
- Flexible PCIe configuration supporting x8, x4 and x2 links
- Non-transparent bridging (NTB) on every port to allow multi-host and host-to-host connections between processor cards
- Extensive PCIe error management to support high-availability requirements
- Backplane Ethernet control plane switch with up to eight ports of 10GBASE-KR to the backplane to connect processor cards over a high-speed 10Gbps control plane
- XMC site for hosting PCIe-connected mezzanine or Ethernet media conversion module
- Available in standard air-cooled and conduction-cooled rugged form factors
- Design aligned with the latest SOSA™ Technical Standard snapshot, including a 6F8U backplane profile with 1000BASE-T

Built Rugged for Deployed Environments

Designed for superior durability and reliability, the VPX3-663 incorporates Curtiss-Wright's industry-leading hardware design and validation practices to meet the stringent requirements of the most demanding deployed environments.

Complete System Solutions

To accelerate system development, the VPX3-663 is compatible with the PCIe fabric software libraries supported on several Curtiss-Wright SBC modules. It is fully compatible with a wide variety of 3U Curtiss-Wright module types, including:

- VPX3-1220 and VPX3-1260 Intel® x86 SBCs
- VPX3-1703 Arm® and VPX3-152 Power Architecture® SBCs
- VPX3-482 (CHAMP-XD1) x86 DSP Module
- VPX3-611 I/O Module
- VPX3-530 and VPX3-534 FPGA Module
- VPX3-4923 GPGPU Module
- VPX3-673 Timing Services Module

Sales inquiries: Please forward all Sales and reader service inquiries to ds@curtisswright.com.

For more information about Curtiss-Wright's Defense Solutions division, please visit www.curtisswrightds.com.

About Curtiss-Wright Corporation

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